



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,812	02/09/2004	Jun Koide	1232-5279	9226
27123	7590	05/16/2005		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER KOVAL, MELISSA J	
			ART UNIT 2851	PAPER NUMBER
DATE MAILED: 05/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/774,812	Applicant(s) KOIDE, JUN	
	Examiner Melissa J. Koval	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-20 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 16 and 21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/12/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15, 17-20, and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi U.S. Patent Application Publication US 2001/0033418 A1.

Refer to Figures 1 through 3, 10 and 11, for example.

Claim 1 sets forth: "An illumination optical system which illuminates an illumination surface with a generally telecentric illumination luminous flux, comprising (See sections [0033] and [0034].):

at least one optical element, wherein light intensity distribution of the illumination luminous flux on the illumination surface changes depending on a deviation angle of an incident ray with respect to a normal to the illumination surface (See condenser lens 8 in Figure 2, for example.),

wherein light intensity distribution of the illumination luminous flux on the illumination surface changes depending on a deviation angle of an incident ray with respect to a normal to the illumination surface,

wherein the optical element optically operates the illumination luminous flux such that a ratio angle widths at which light intensity reaches half a peak value in each of two

axis directions orthogonal to each other on the illumination surface is an aspect ratio of or higher.”

See sections [0040] through [0044].

Please note that the functional language recited after “wherein” in the claims does not define any structure and therefore does not further limit the claims. Apparatus claims must be structurally distinguishable from the prior art (MPEP 2114).

Claim 2 is rejected for the same reasons already applied to claim 1.

Claim 3 sets forth: “An illumination optical system which optically operates an illumination luminous flux incident as a generally collimated luminous flux, comprising:

an optical integrator which performs splitting and recombination on the illumination luminous flux in a first axis direction on a section generally orthogonal to a traveling direction of the illumination luminous flux (See PBS prism unit 3.); and

a light intensity conversion element which performs conversion of light intensity distribution of the illumination luminous flux second axis direction orthogonal the first axis direction on the section (See half-wave plates 4 as shown in Figure 1 or quarter-wave plates 18 as shown in Figure 2.).”

Claims 4-8, 10 and 11 set forth functional language.

Claim 9 sets forth: “The illumination optical system according to claim 3, further comprising polarization conversion element which converts a luminous flux into linearly polarized light having a predetermined polarization direction in an optical path a direction of integration by the optical integrator.” See polarizing beam splitter 12 as shown in Figure 2.

Claim 12 sets forth: "A projection display optical system comprising:
the illumination optical system according to claim 1;
a spatial light modulation element which modulates a luminous flux emerging from the illumination optical system by a group of pixels arranged two-dimensionally (See display panel 9.); and
a projection lens which projects the luminous flux modulated by the spatial light modulation element onto a projection surface (See projection system 10.)."

With respect to claim 13 refer to display panel 9 as shown in the varying embodiments.

With respect to claims 14 and 15, see Figure 3.

Claim 17 is rejected for the same reasons applied to claim 12.

With respect to claim 18 again refer to display panel 9.

With respect to claims 19 and 20, see Figure 3.

With respect to claims 22 and 24, see light source 1 and reflector 2.

With respect to claim 23 and 25, see any of sections [0009], [0015], [0037], [0055], [0060], or [0086].

Allowable Subject Matter

Claims 16 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

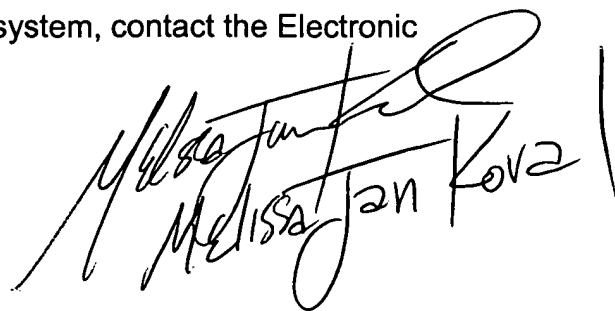
The prior art of record neither shows nor suggests the following as set forth in both claims 16 and 21: "a plurality a plurality of transmission type liquid crystal modulation elements as the spatial light modulation element, and one of a wavelength selective deviating element and a deflecting direction selective deviating element which combines luminous fluxes modulated by the respective transmission type liquid crystal modulation elements and is disposed in an optical path from the plurality transmission type liquid crystal modulation elements to the projection lens."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa J. Koval whose telephone number is (571) 272-2121. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Handwritten signature of Melissa J. Koval, with the name "Melissa J. Koval" written below it.